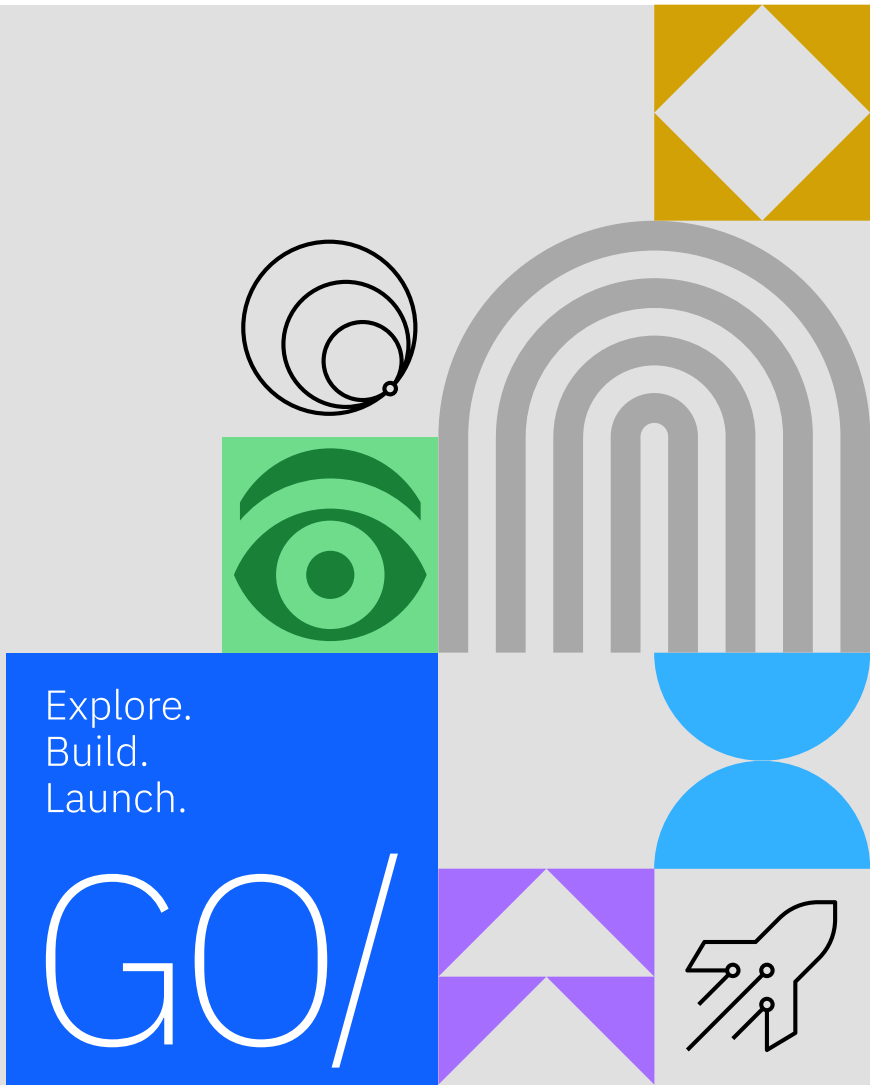
IBM i Migrate While Active - Why take your system down to migrate?

Tim Rowe



Agenda

01 The Challenge

02 MWA Product Overview

03 Assisted Save/Restore

04 Partition Mirror

05 Details

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Understanding the Challenge

Number 1 most asked question:

Can I send my IBM i save tapes to PowerVS?

Answer:

No, there are no physical tape drives in PowerVS

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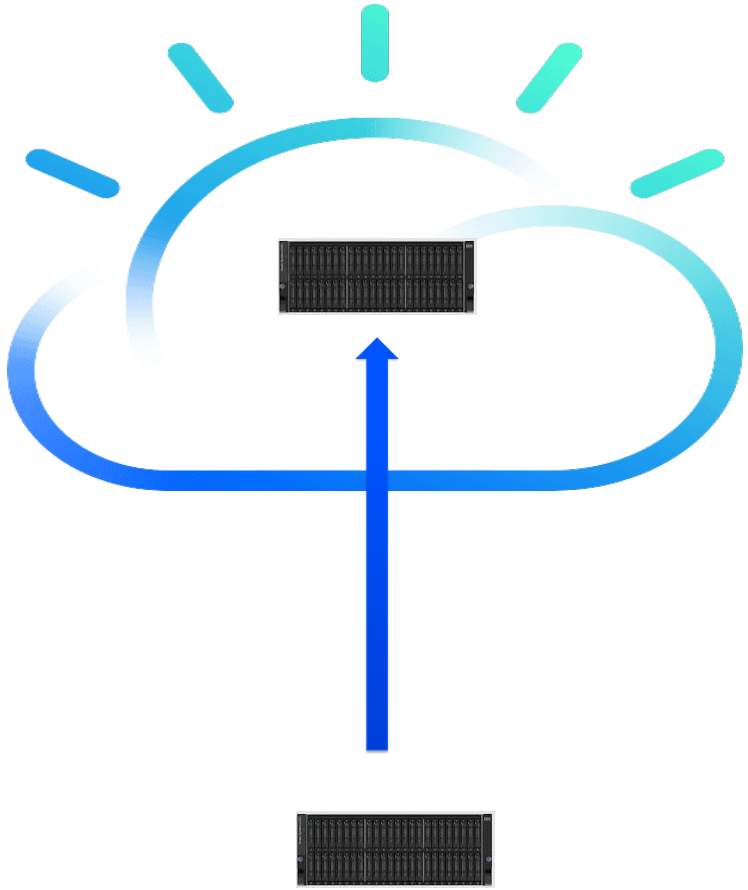
Understanding the Challenge

Number 2 most asked question:

Can I replicate my storage controller to PowerVS?



Answer:

No, currently there is no support to replicate from on-prem to PowerVS at the storage controller layer

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Understanding the Challenge

- Can I save directly to the Cloud VTL?

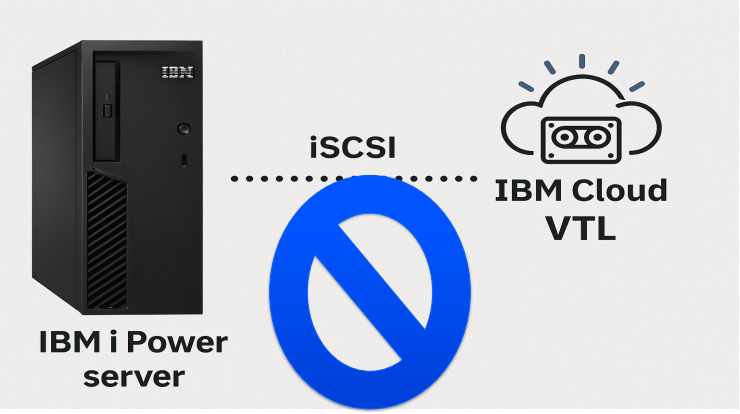
  No, the latency is to great to achieve any type of throughput.

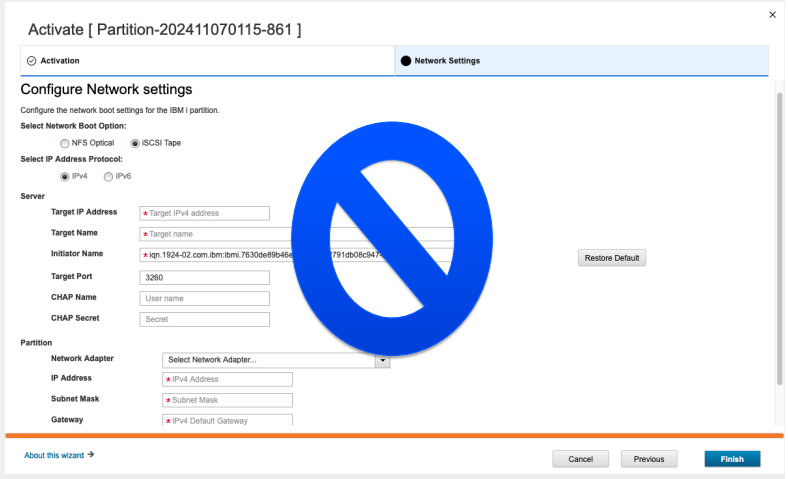
- Can I boot from my save media?

  No, you have to first do a network install of the base OS from a running IBM i.

- Can I use tape for the entire system install:

  No, you have to use virtual optical for the base and optionally tape for the user data.





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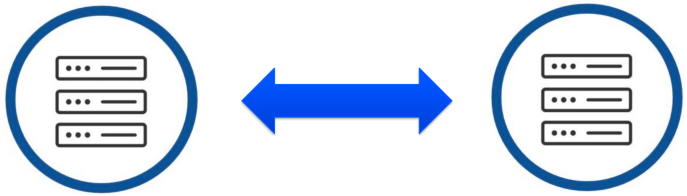
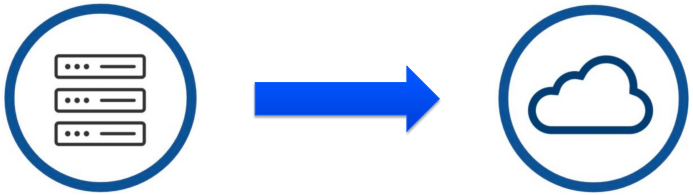
The Db2 Mirror for i Family

Base Product (5770- DBM 5050)
- No Charge
- GUI Support
- Application Evaluation



Option 1 – Continuous Availability (5101)
- Licensed per core on both nodes
- Requires RoCE RDMA adapters
- Bi-directional synchronous replication
- Limited to distances less than 10 km
- Rolling upgrades
- Can help provide a near 0 downtime environment for IBM i applications



Option 2 – Migrate While Active (5102)
- Licensed per core on the source node
- Uses a TCP/IP connection
- One direction asynchronous replication
- No physical limitation on distance, but cutover outages are dependent on bandwidth and latency
- **NOT a Disaster Recovery Product**

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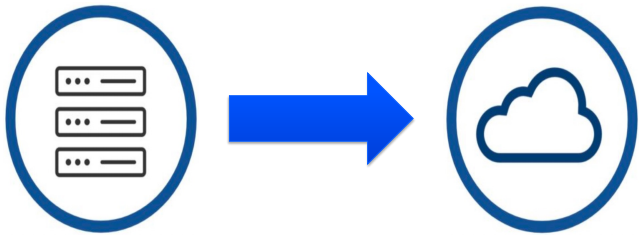
Zero Planned Down Time for IBM i with Db2 Mirror MWA



Minimize Downtime

Migrate While Active – Assisted S/R

- Assisted S/R guides you through the S/R process to be able to restore on PowerVS
- After the save, delta objects are tracked to be synced after the restore of the target

- All Storage Architectures: No dependency on external storage, VIO or HMC
- Preset S/R Procedure: Special procedure designed for target environments that can't D-Mode off of tape
- Track Changes: Track changes while the system is being transferred and restored.
- Business Continuity: Sync changes while the business continues.

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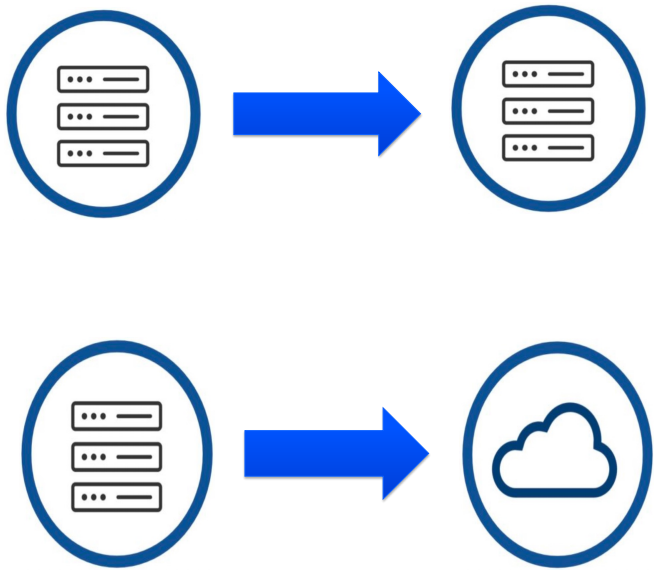
Zero Planned Down Time for IBM i with Db2 Mirror MWA



No Downtime

New Migrate While Active – Partition Mirror

- Partition Mirror your source system while it is running to either a new Power Server or IBM Cloud
- Cutover is a simple IPL of the target partition

- All Storage Architectures: No dependency on external storage, VIO or HMC
- No Save / Restore: Similar to full system storage replication
- Test Copy System: Detach mirror, test the copy and resync from the source system
- P11 migration tool: Available on IBM i 7.4. (7.5 coming soon)

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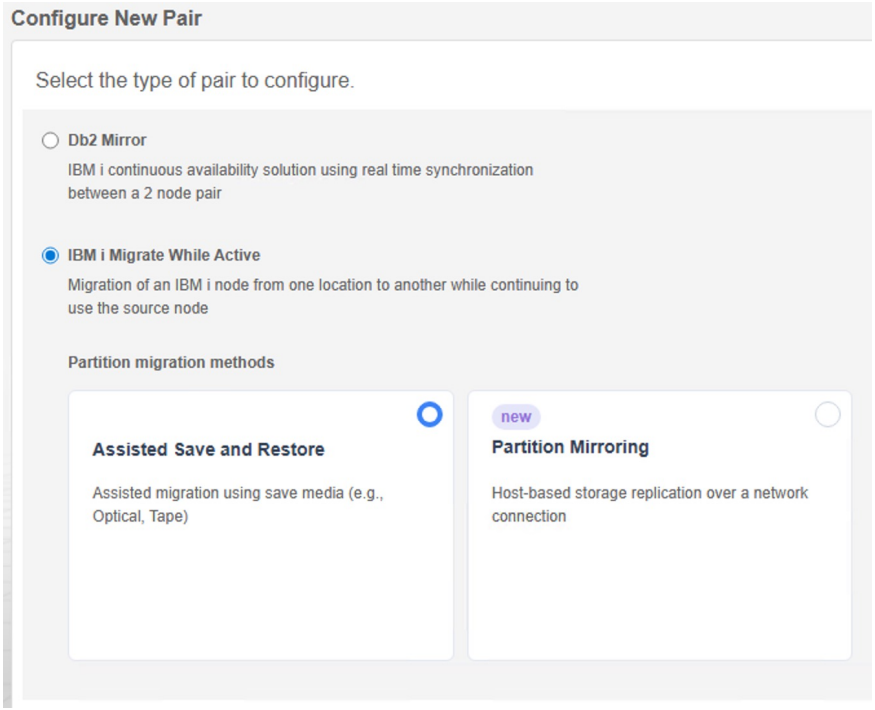
Choices



Partition Mirror

- Your system is at 7.4 (7.5 coming soon)
- Only supports SYSBAS, no IASPs allowed
- Depending on change rate, bandwidth and size of system you can wait for the initial sync.
- You have a requirement for a pre-test before cut over

Assisted Save and Restore

- You have a system at 7.5
- You have a large system that doesn't really change. ie greater than 40 TB but only changes a few TB per week.
- Have on on-prem VTL to save to that can replicate to the target.
- Your system has IASPs

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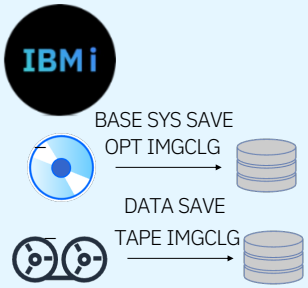
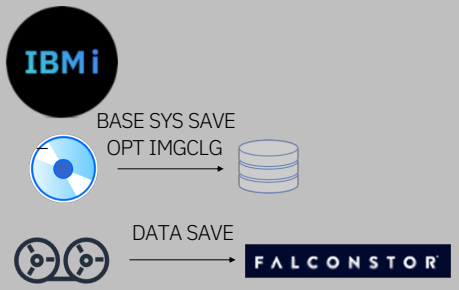
IBM i Migrate While Active

Step 1: Initial System Save

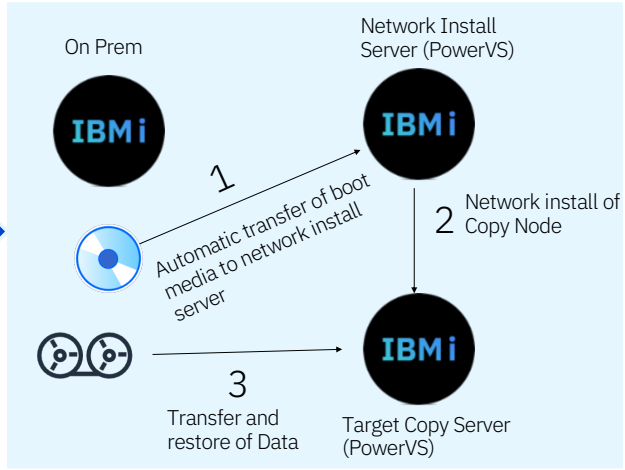
Pattern 1. Using IBM i Local Storage

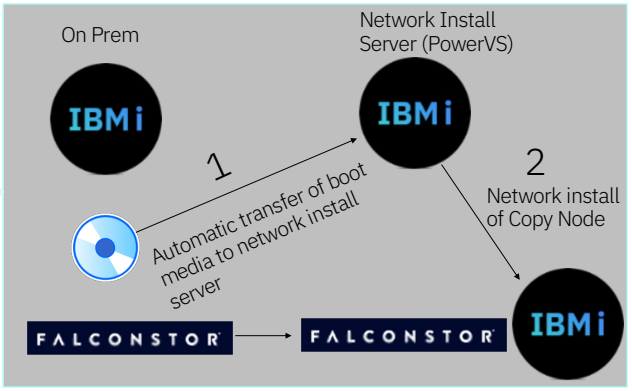


Pattern 2. Use VTL for DATA SAVE



Step 2: Transfer SAVE to PowerVS





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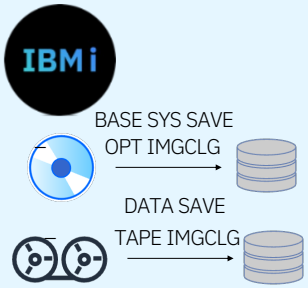
IBM i Migrate While Active – Assisted Save/Restore

Step 1: Initial System Save

Pattern 1. Using IBM i Local Storage



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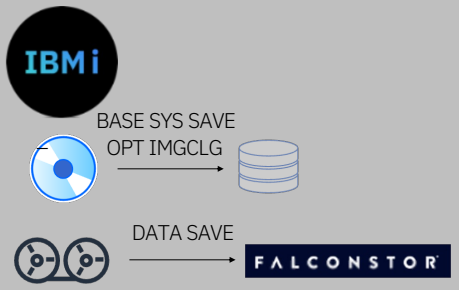
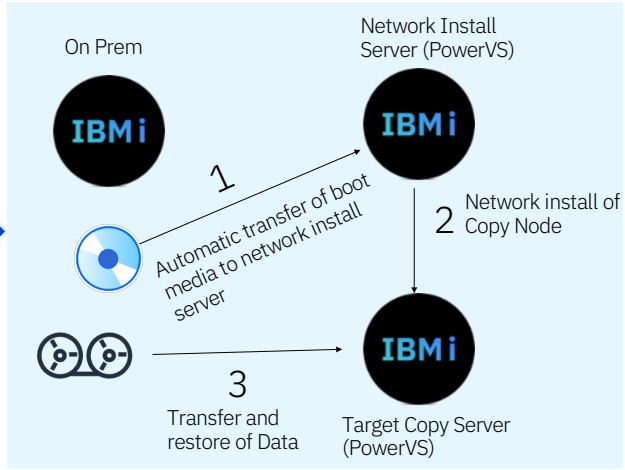
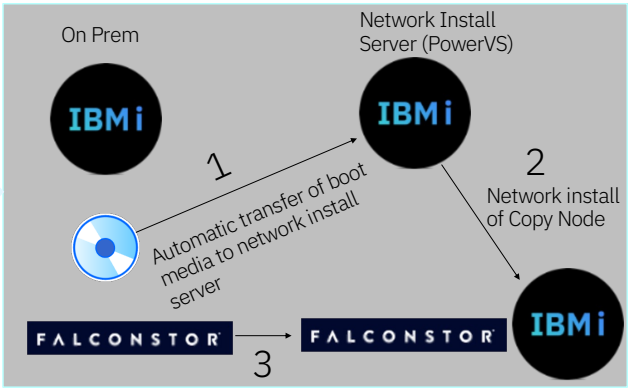
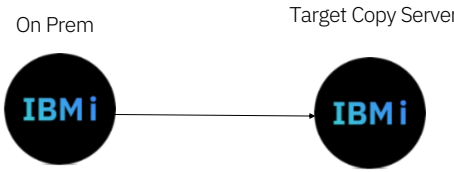


Step 2: Transfer SAVE to PowerVS





Step 3: Transfer Changed Data



Transfer the changed data that has occurred since completion of the initial SAVE.

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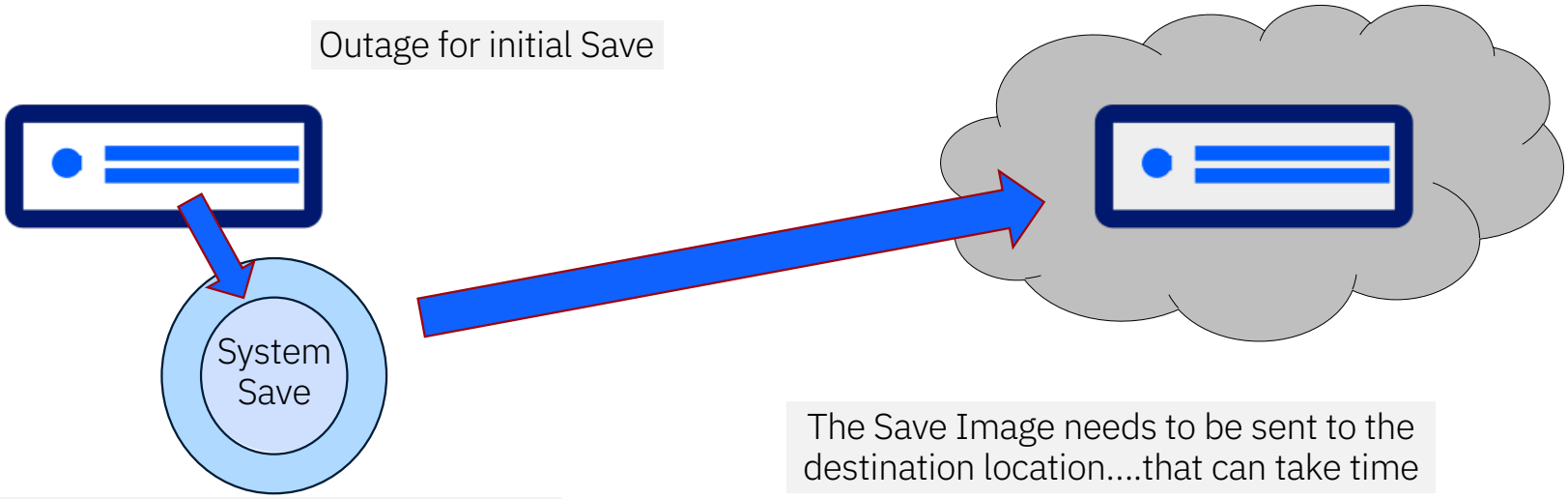
Migrate While Active

Outage for initial Save



MWA – Assists in creating the save of the system. OS, Security Info, User Objects, IFS

The Save Image needs to be sent to the destination location....that can take time

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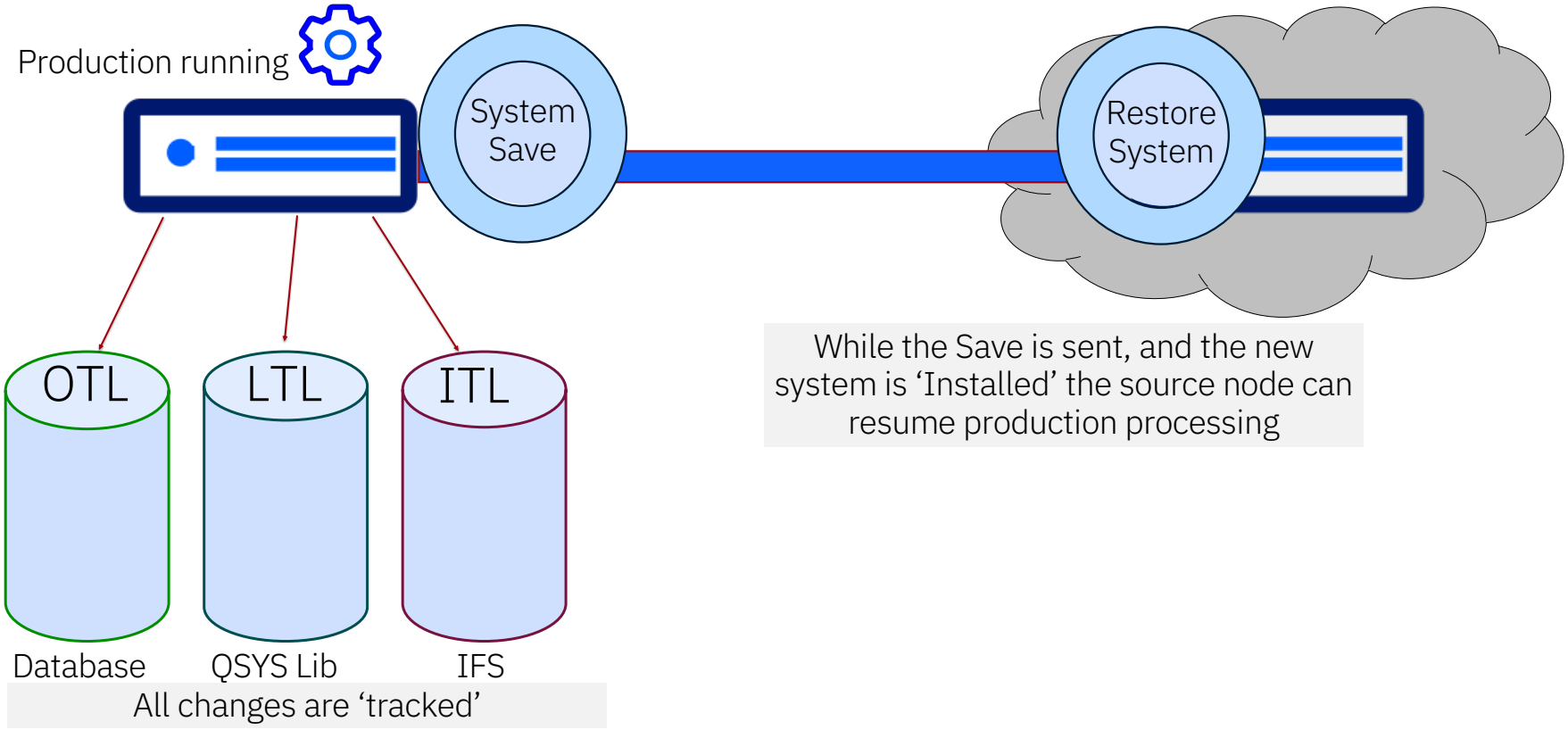
Migrate While Active



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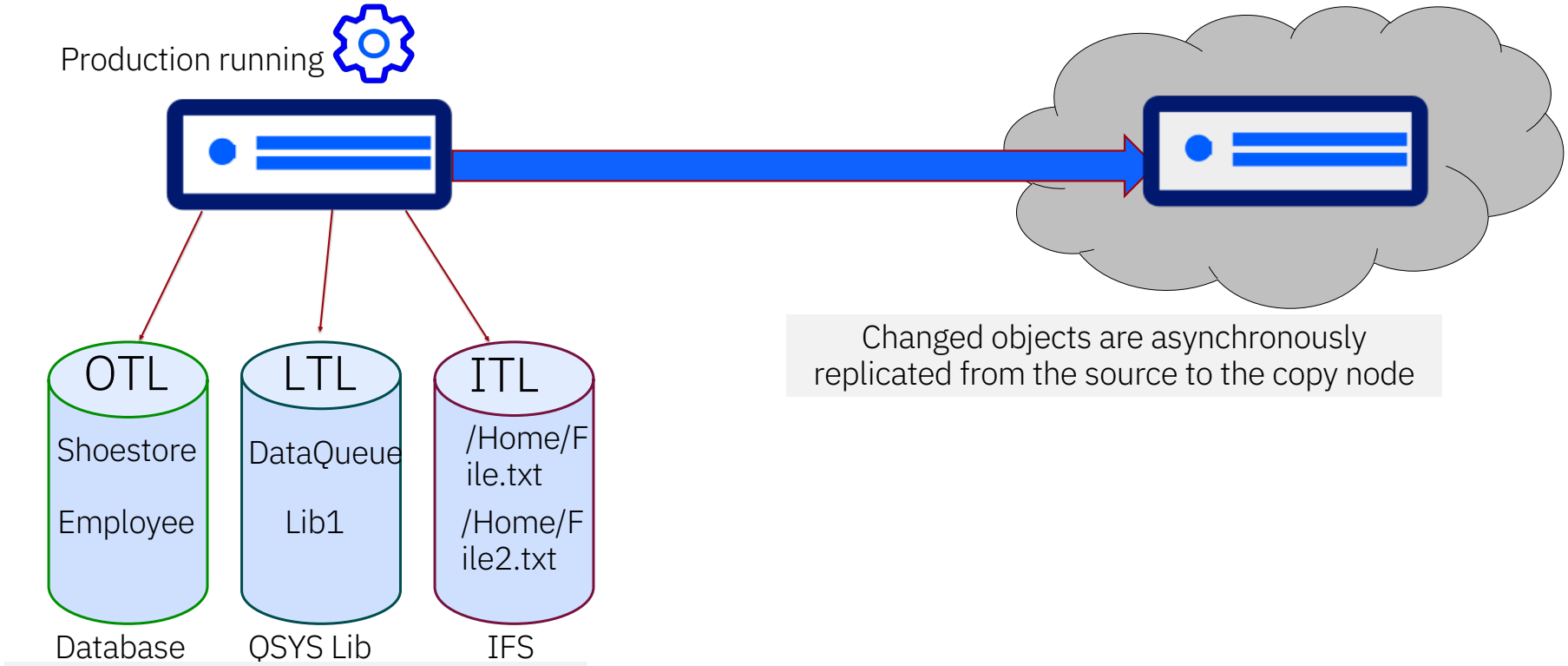
Migrate While Active



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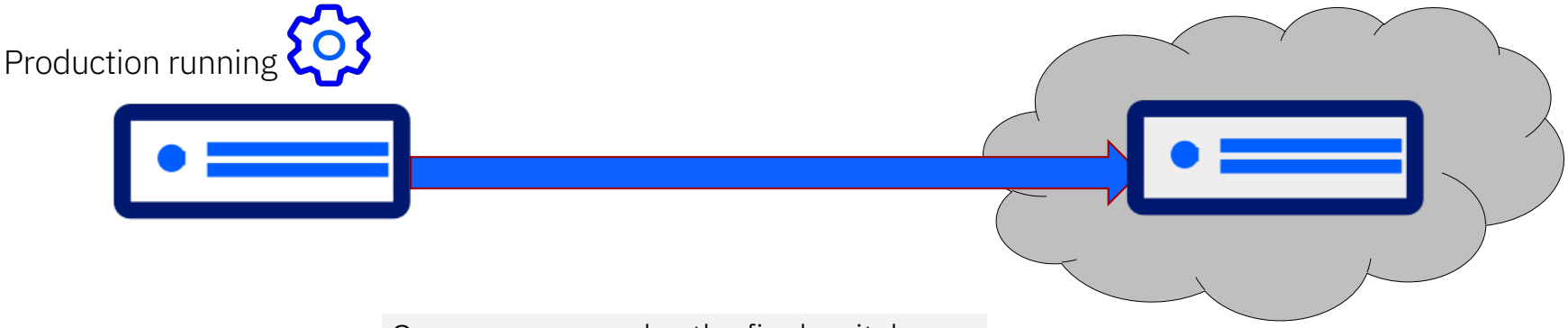
Migrate While Active



Once you are ready...the final switch over is processed. Now Production is running on the new node

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IBM i Migrate While Active – Partition Mirroring

Easily migrate from on-prem to PowerVS or to a new Power Server on-prem

- **No Save / Restore** technology needed
- **Production downtime** eliminated on the setup, reduced to an IPL on the cutover.
- **Production on-prem remains available** while changes are sent asynchronously to the copy node
- Similar to **full system storage replication**

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Establish network connectivity between source and target

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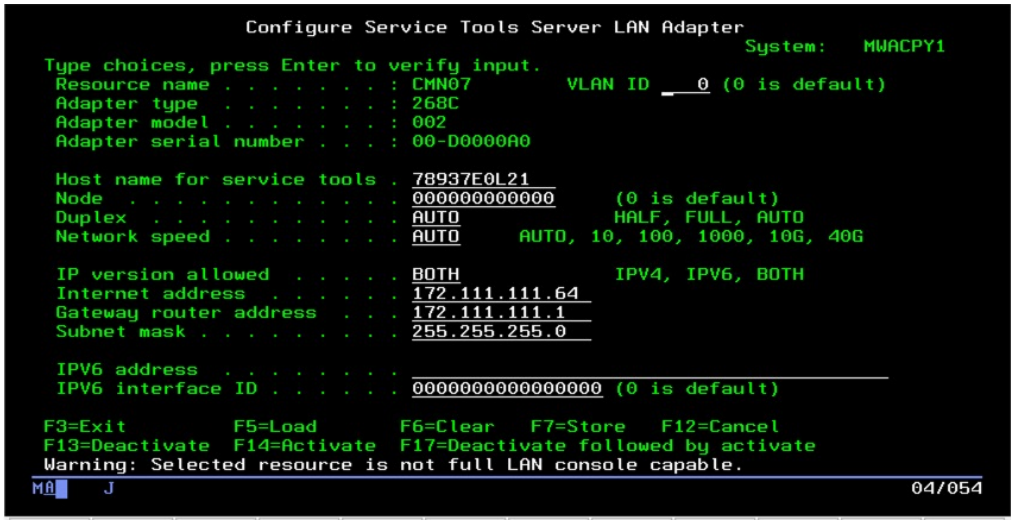
Target instance only needs DST and a Service LAN connection



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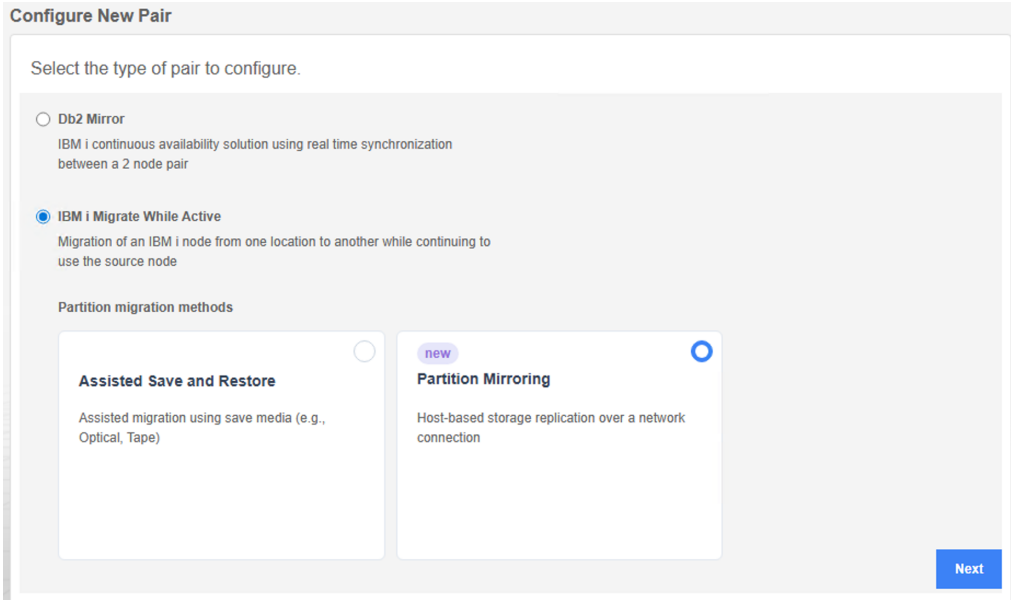
Install Migrate While Active on the source.



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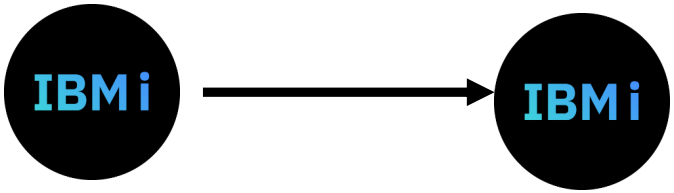
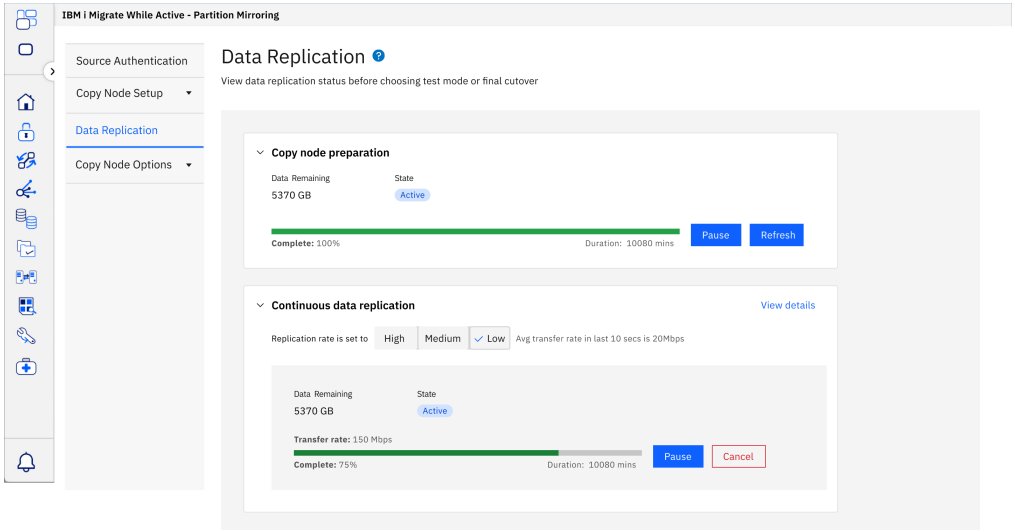
Let the mirroring begin





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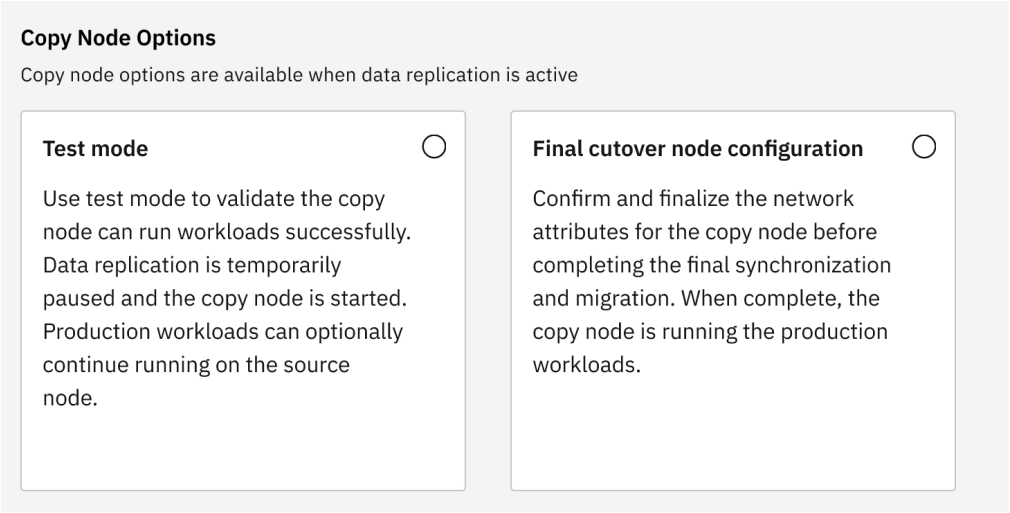
Choose to test your copy before cutting over



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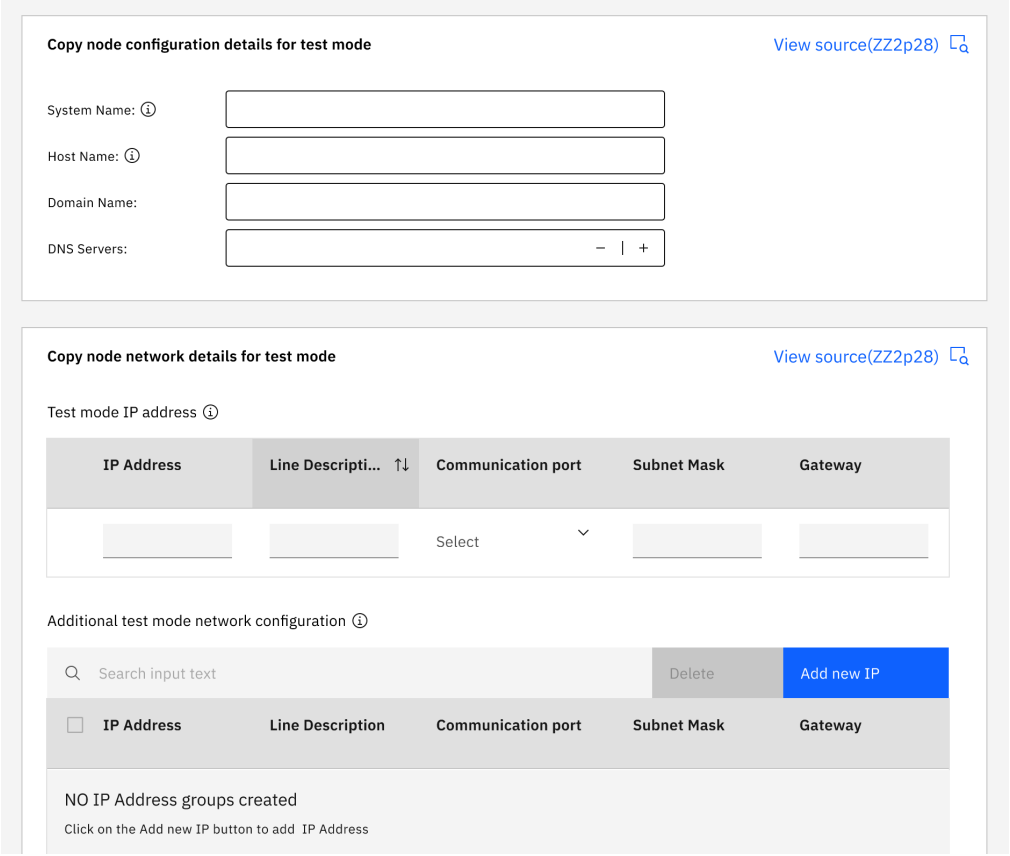
Input the info for the new test system



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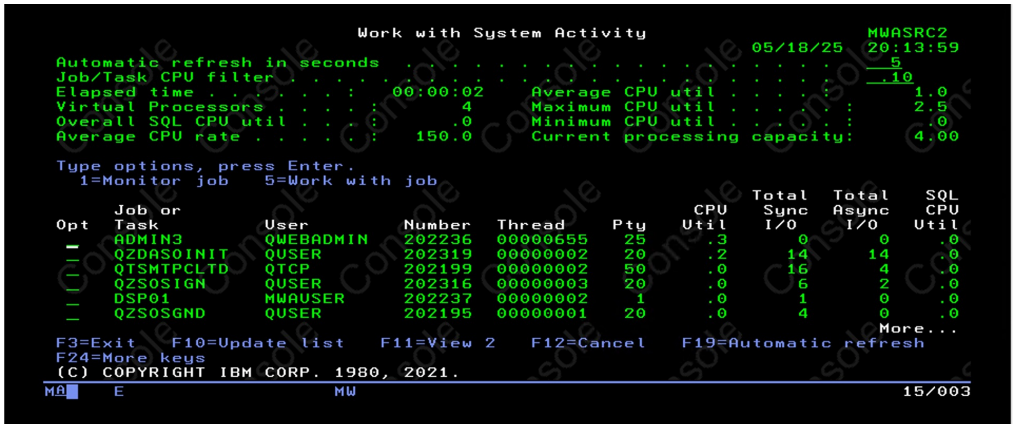
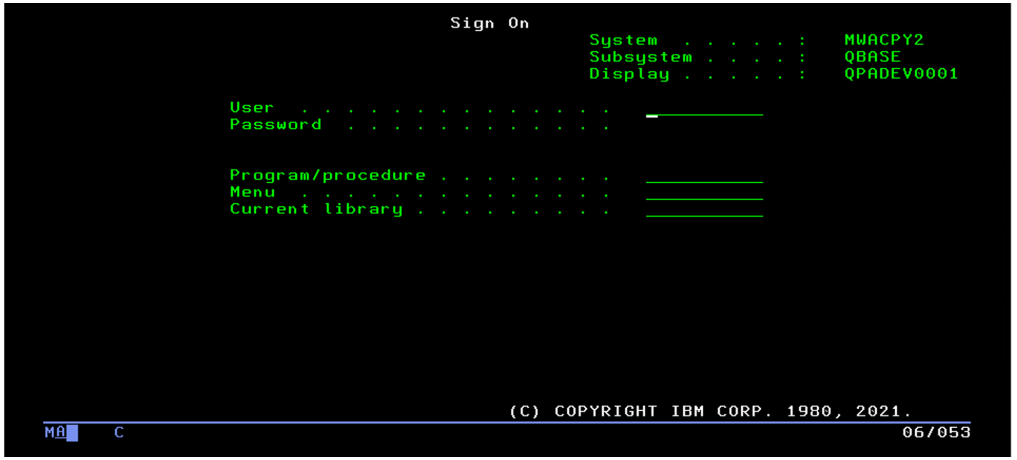
Replication is paused, not your production and the test instance is brought online





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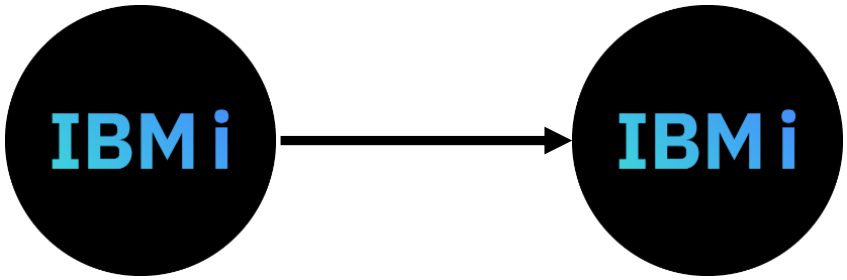
After testing, resync changes from the production instance



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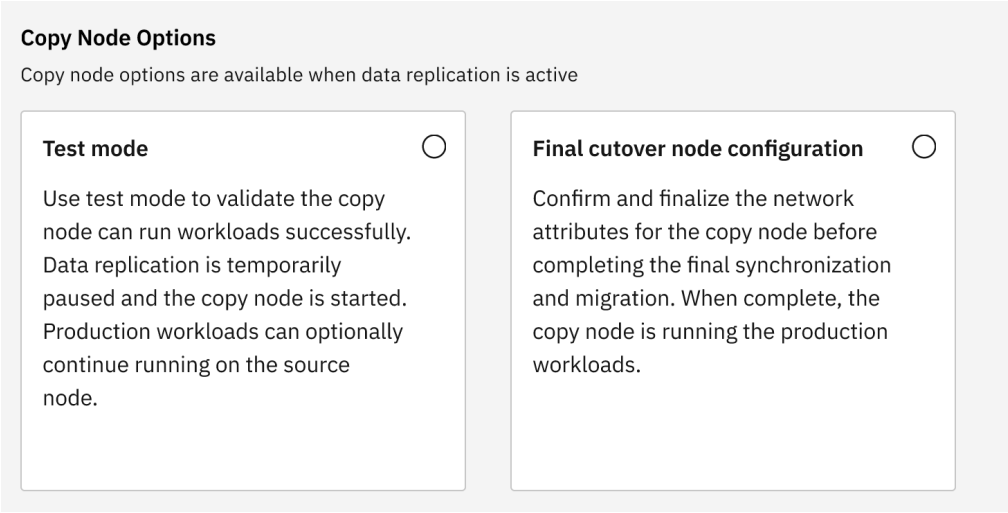
Choose to do the final cutover



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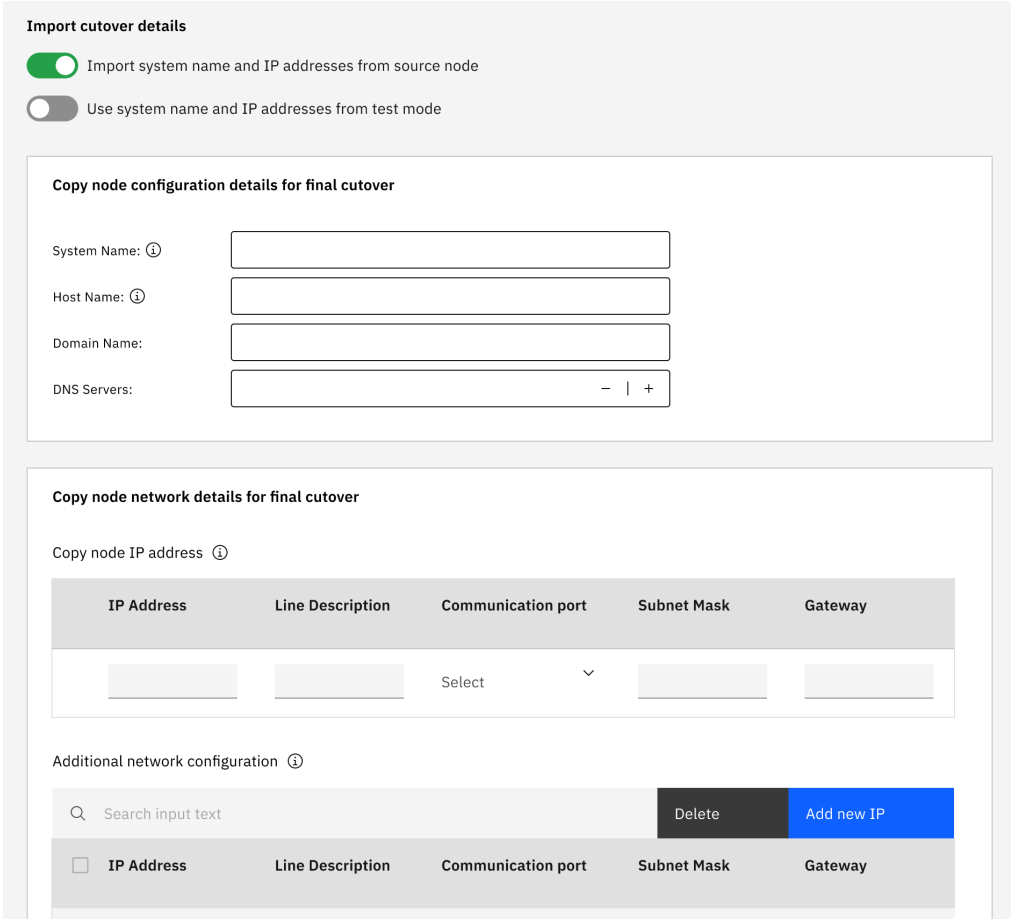
Input final cutover system details and bring up the new instance



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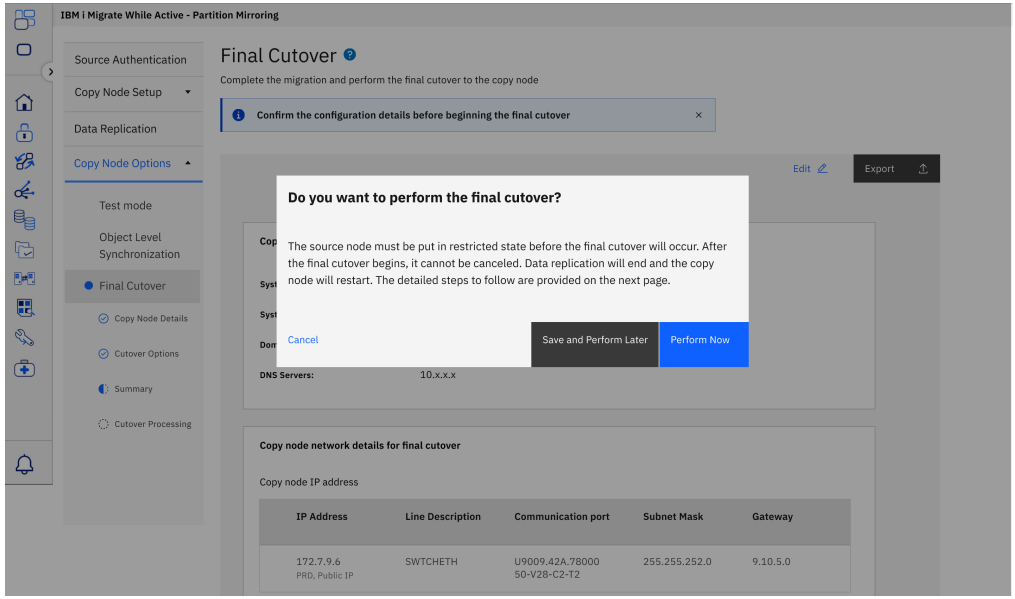
Copy is IPLed and configured with the user inputs.

Source is brought to restricted state.



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IBM i Migrate While Active Pricing and PIDs

	Subscription Term – Migration Feature	eConfig Details
Db2 Mirror for i 7.4,7.5 or 7.6 Per core pricing	5770-DBM License & SWMA combined 90 day or 1/2/3/4/5 year terms Price per core: Same price for all systems One price $2140/core/year 90 days: $749/core	5770-DBM: license PID Installed as option 5102 Subscription PIDs: 5666-MSL: 90 days 5661-MSL: 1 year 5662-MSL: 2 year 5663-MSL: 3 year 5664-MSL: 4 year 5665-MSL: 5 year

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IBM i Migrate While Active

- **Product Page**: https://www.ibm.com/support/pages/ibm-i-migrate-while-active
- **IBM i 7.4 and 7.5**
- **New Book**: https://www.ibm.com/docs/en/i/7.4?topic=availability-i-migrate-while-active https://www.ibm.com/docs/en/i/7.5?topic=availability-i-migrate-while-active

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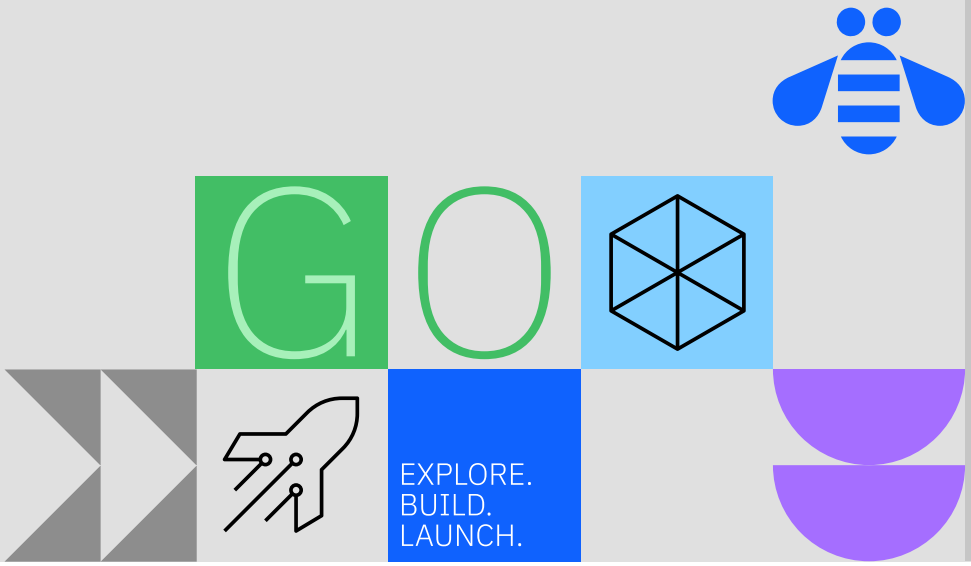
Thank you



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Company, Job Title
Contact Info

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